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ABSTRACT

Traditionally, coping and adaptation have been considered synonymous in individual's responses to illness and other stressful situations. The Illness Adaptation Scale (IAS) is a 12-item instrument which was designed to assess adaptational outcomes in illness situations as well as four coping modes (instrumental-self oriented, instrumental-other oriented, affective, and escape) used to manage illness. Adults (N=284, 60 percent male), known to have chronic illness or substance abuse problems, were administered the IAS as part of a structured interview investigating health generated marital problems. An analysis of the results showed that this population sample had moderate success managing the illness adaptive tasks. Accepting being ill and uncertainty about the future, and keeping an emotional balance were found to be the most difficult tasks. The area of least difficulty was communication with medical or professional staff. The reliability coefficient of the IAS was 0.88. Item to total correlations were significantly related at medium to high levels. Attempts to ascertain criterion-related validity involving comparisons of respondents' marital and illness adaptation problems were significantly related but were low in correlation, indicating that marital difficulties during chronic illness or health problems are not good criteria for evaluating illness or health adaptational problems. Of the four coping modes which respondents could choose in adapting to illness, the majority of subjects employed instrumentally-oriented coping strategies. Overall, the IAS proved to be a reliable and valid measure, allowing the determination of coping strategies and adaptational outcomes. (The IAS is appended.) (BL)

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ILLNESS ADAPTATION: CLARIFYING THE CONCEPT AND VALIDATING A SCALE

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Illness Adaptation: Clarifying the Concept and Validating a Scale

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This paper presents a new illness adaptation instrument which can be used for measurement of illness effects among the elderly. The authors developed this measure to operationalize a) processes of coping (strategies) and b) adaptational outcomes (successes) in response to the stress of illness. We first will review recent conceptual approaches to coping and illness adaptation and differentiate coping processes and outcomes.

Understanding how persons cope with stressful life events and life situations has increasingly interested social scientists (Folkman and Lazarus, 1980; Moos, 1977; Pearlin and Schooler, 1978). Within gerontology there has been much theoretical focus and empirical research on coping (Carp, 1974; Kahana and Kahana, 1979; Lawton and Nahemow, 1973; Lowenthal, et al., 1975; Neugarten, 1964; Quayhagen and Chiriboga, 1976).

While coping has been analyzed insofar as personality traits (Busse and Pfeiffer, 1969; Reichard, et al., 1962), or as strategies utilized by persons in stress situations (Folkman and Lazarus, 1980: Lazarus, et al., 1974), coping is frequently considered to be synonymous with adaptation (Pearlin and Schooler, 1978; White, 1974) and the diverse conceptual domains of the terms coping, adaptation and adjustment often not distinguished (Stagner, 1981). Folkman and Lazarus (1980) proposed a means of differentiation by examining"the relationship between coping processes and adaptational outcomes" (p. 220). Particularly when we consider stress engendered by illness, there have been only limited efforts at conceptualization and

operationalization of the various concepts.

Illness Coping and Adaptation

Empirical studies have usually focused on coping strategies used in illness (Cohen and Lazarus, 1979; Felton, et al., 1981; Lipowsky, 1970; Roessler and Bolton, 1982). Instruments devised for studies of illness behavior (Bergner, et al., 1976; Pritchard, 1974; Pilowsky and Spence, 1975; Volicer, et al., 1977) have also tended to overlook adaptational outcomes. Work which has considered adaptation as an outcome has either provided conceptual models without measurement components (Moos, 1977) or considered illness adaptation without health related instruments (Andreasen and Norris, 1977; Kaplan, et al., 1977; Reichsman and Levy, 1977).

Measuring Illness Adaptation

With respect to some of these problems we have devised an illness adaptation instrument. We have conceptualized adaptation as a state and coping as a process in the context that coping techniques are utilitarian in promoting adaptational outcomes during illness. Figure 1 presents a visual representation of our approach.

Figure 1

Illness Situations

The Coping Process (Coping Strategies; Traits of Personality) ⟶ The Adaptational State (Illness Adaptational Outcomes)

The measure we will present is based primarily on Moos' (1977) illness adaptation model, Young (1981) chronic disease adaptation research and Kahana's (1979) stress adaptation work and has been designed to assess

adaptational outcomes in illness situations as well as the coping strategies used to manage illness.

The Illness Adaptation Scale

Development

The scale which we have termed the "Illness Adaptation Scale" (IAS) is based primarily on Moos' (1977) illness adaptive tasks and also derives from the earlier work of Young (1981) among chronic lung disease families and Kahana and Kahana (1979) among institutionalized elderly.

Moos' illness adaptive tasks are activities directed toward overcoming disequilibrium associated with illness crises. These are contained in his illness adaptation formulation and are based upon psychiatric crisis theory. The model emphasizes the homeostasis or the equilibrium-seeking tendency of people who encounter balance-disturbing situations similar to that elaborated by Stagner (1977). In crisis promoting events such as illness, the illness adaptive tasks are efforts to handle the situation and provide a halt to dysequilibrium. While the concept of adaptive tasks was previously considered by Hamburg, et al., 1974 and Lazarus et al., 1974), Moos delineated seven specific adaptive items. These are aimed at dealing with problems posed by the illness itself, the health care system, the family and with maintenance of mental health in the face of illness.

1. Dealing with pain and incapacitation.
2. Dealing with hospital environments and treatment procedures.
3. Developing adequate relationships with professional staff.
4. Preserving a reasonable emotional balance.
5. Preserving satisfactory self-image.
6. Preserving relationships with family and friends.
7. Preparing for an uncertain future.

The concept of illness adaptation was operationalized from the aforementioned adaptive tasks and previous work of the authors concerning stress adaptation (Young, 1981; Kahana and Kahana, 1979). The seven items considered by Moos provide a fairly comprehensive set of adaptive tasks. These tasks were supplemented by the authors to permit consideration of environmental adaptation and social role performance. Furthermore, an item was added to denote acceptance of the illness itself. The five additional items included: 1) Accomplishing family tasks and responsibilities, 2) Dealing with family problems caused by the illness, 3) Dealing with work or financial problems, 4) Getting out, going places, or traveling, 5) Accepting the illness.

Resulting from these efforts was a twelve item instrument to determine illness adaptational outcomes (see Appendix A). The degree of success respondents reported in dealing with the items was considered to be the indicator of their illness adaptation, since it represented achievement of the illness adaptive tasks. Also contained in our measure are items pertaining to illness-generated coping. In accord with our conceptualization of coping and adaptation as distinct entities we have included four coping strategies used to manage illness situations as indicated by previous work of Kahana and Kahana (1979). These are: instrumental coping-self reliant; instrumental coping-help seeking; affective coping; escape (cognitive) coping. The first two are similar to problem-focused coping, the second to emotion-focused coping and the third to appraisal-focused coping as proposed by Moos and Billings (1983). Adaptational and coping items are also presented in Appendix A.

The Sample and Instrument

The IAS was tested among a sample of 300 persons experiencing health problems relating to chronic illness or alcohol-substance abuse problems.

Respondents included patients and spouses facing these situations. The heterogeneity of the sample was by choice to see whether the scale distinguished between different types of health problems and among patients and spouses who lived with illness situations.

Three hundred respondents known to have chronic illness or substance abuse problems were contacted by 30 sociology students as part of a project investigating health generated marital problems. Each student interviewed ten respondents in their homes. From the sample of 300, 284 completed interviews were data analyzed. Excluded were questionnaires with missing or inappropriate health information. A brief description of the sample is as follows:

Sex: 60% male, 40% female; age. 43% under 40, 39% 40-55, 18% 56 and over;

Marital status: 73% married, 22% divorced or separated, 6% widowed.

The IAS was included in a structured questionnaire derived from a marital problems study (Young and Eshleman, 1979). Health related items were added to the original instrument, as were the twelve illness adaptive tasks and the four general coping strategies described earlier.

Scoring of each of the twelve illness adaptation items was on a scale of 1-4, allowing a maximum score of 48 for the IAS. The score of 1 indicated little difficulty dealing with the task while persons with scores of 4 reported being very unsuccessful.

This sample showed a mean Illness Adaptation Score of 21.6 (standard deviation 8.70), indicating moderate success managing the illness adaptive tasks. The most difficult task was accepting being ill (#1) with a mean difficulty score of 2.04. Uncertainty about the future (#9) and keeping an emotional balance (#8) were also problematic tasks with scores of 2.0 and 1.99, respectively. Least difficulty was afforded by communication with medical or professional staff (#6). Ranks and mean scores of the adaptive tasks are presented in Table 1.

Table 1 about here

Reliability and Validity Analyses of the Scale

As noted by Kahana, Fairchild and Kahana (1982), empirical development in the adaptation area has been hindered by many researchers' failure to assess reliability and validity of instruments. Reliability of this scale was calculated by using Cronbach's alpha to determine internal consistency. This yielded a reliability coefficient of 0.88, which is higher than the level of 0.80 considered satisfactory for wide usage (Carminas and Zeller, 1982). Other validating procedures included:

1. Item to total scale correlations to indicate internal consistency.
2. Criterion group validity to determine scale reliability for different groups (males and females; persons with chronic illness or substance-alcohol problems)
3. Criterion-related validity to determine concurrent validity between illness adaptational problems and marital problems during illness.
4. Factor analysis to determine uni- or multi-dimensionality of the IAS.

Reliabilities ranged from 0.87 to 0.90 for all criterion groups. Item to total correlations were significantly related at medium to high levels (range of 0.48-0.67). Our attempts to ascertain criterion-related validity involving comparisons of respondents' marital and illness adaptational problems significantly related but actually low in correlation (r=.15, p .04), indicating that marital difficulties during chronic illness or health problems are not good criteria for evaluating illness adaptational problems.

Results of the factor analysis (presented in Table 5) based upon varimax rotation, showed three factors predominating. These were entitled MEDADAPT,

PSYCHO-SOCIAL ADAPT and FAM-SELF ADAPT, reflecting their medical intra-personal, and interpersonal natures. Neither the seven Moos adaptive tasks nor the five supplementary tasks proposed by earlier work of the authors formed one of the three factors. They differed substantially in accounting for the variance with Psycho-Social Adapt responsible for 70 percent, Medadapt for 12 percent and Fam-Self for 9 percent.

Based upon reliability and validity analyses, the Illness Adaptation Scale appears potentially useful to researchers, health practitioners and others concerned with adjustment to illness as a specific stressor. In considering the assessment strategy presented we should note that ours represents an initial effort to operationalize the concept of illness adaptational tasks. As has been repeatedly stressed, health and illness need to be examined on a continuum, not as polar opposites. Therefore, to construct an instrument to measure illness adaptation based on adaptational tasks is implying that all illness needs adaptation. While sociobehavioral work has proposed universalities of chronic disease management (Strauss and Glaser, 1975; Moos, 1977) we recognize there is room to question the appropriateness of a general measure of illness adaptation and the attempt to validate this particular scale among a diversity of health problems and people of differing ages. We propose to leave the conceptual argument to others, while encouraging empirical testing of the instrument among differing samples with hope that it will provide answers to the question.

Utilizing the Scale: Relationships of Illness Adaptation and Coping

In our conceptualization, coping is considered as a process rather than as an adaptational state. While the instrument was primarily devised to measure adaptational outcomes, it also allows investigation of illness coping

strategies. In considerable previous work of one of the authors coping has been found to be multi-dimensional (Kahana and Kahana, 1979), so four general coping modes (instrumental-self oriented, instrumental-other oriented, affective (emotional) and escape (cognitive) were considered. The instrument requires respondents to indicate the single most useful strategy employed to face a particular adaptive task.

Analysis of our data indicated that one type of coping strategy prevailed. Regardless of adaptational task required, the majority of persons employed instrumentally oriented coping strategies. These were either individually-generated action or involved seeking aid. Proportions of the sample reporting these two instrumental strategies ranged from 52 percent (for the task of managing uncertainty) to 72 percent (handling home and family related tasks while ill). (See Table 2). Of these two strategies, action by self exceeded seeking assistance of others in all matters except those pertaining to pain and special illness treatments.

The least frequently selected coping strategies were affective in nature, preferred by only three to fifteen percent of the sample (depending on the adaptive task). This strategy consisted of respondents' feeling angry, upset, or overwhelmed. Tasks most likely to elicit this type of coping included facing uncertainty about its future (15%), accepting illness (14%), and keeping an emotional balance (13%). This strategy was less apt to be selected when respondents tried to manage family tasks during illness (used in only 3% of its cases).

The third coping mode concerned cognitive techniques involving escape. It was the preferred strategy used in 9 percent to 23 percent of the adaptive tasks. Consisting of the technique of hoping the situation would take care of itself, it was most frequently selected when respondents managed uncertainty

about the illness and least utilized for economic-work related problems.

Table 2 about here

In order to more firmly establish linkages between the domains of coping and adaptation, we compared the predominant coping strategies used in the various adaptive tasks according to the respondents' degree of illness adaptation (see Table 3). First, high, medium and low maladaptors were determined according to scores on the Illness Adaptation Scale[1]. Then the modal pattern of coping for each type of adaptor on each adaptive task was derived. To illustrate, since low maladaptors (those with good adaptation) were more likely to utilize Instrumental A strategies for dealing with the task of accepting illness, this strategy was listed under the task along with the figure 47% indicating the proportion of low maladaptors reporting this strategy.

Data analysis revealed significant differences in coping for each and every adaptive task. Respondents' coping styles on all twelve tasks proved to significantly vary according to their degree of maladaption.

These findings confirm a prevailing social science belief that instrumental action is the "healthiest" coping strategy which was pointed to by Kahana and Kahana (1979) in work demonstrating that the use of affective coping strategies by older persons after institutional relocation was linked to poor adaptational outcomes. In this study, persons who were well adapted, and also those who were moderately well adapted coped with every adaptive task fostered by health problems in a uniform way. They employed instrumental techniques,

[1]High maladaptation = scores of 26 or better on the Illness Adaptation Scale; Medium = scores of 18-25; Low = scores of 17 or less.

rather than escape or emotion-focused coping. On the other hand, the poorest adapted respondents managed just 7 (58%) of the 12 tasks by instrumental strategies. Situations which produced family problems, limited social interaction and required respondents to keep an emotional balance elicited escape coping. Facing uncertainty about the future and dealing with the inability to get out or travel resulted in affective strategies.

As shown, well and moderately well adapted persons were identical in modal coping pattern for each adaptive task. When a strategy predominated for one group it also predominated for the other. However, these groups were distinguishable from each other in degree. For every adaptive task, the proportion of high adaptors preferring instrumentally focused strategies exceeded that of moderate adapters, or was equal, in the case of social interaction (task #7).

Summary

This work has focused on illness adaptational outcomes insofar as our conceptualization of differences between coping processes and states of adaptaion. To determine whether persons have reached an illness adaptational outcome we formulated an illness specific instrument which can aid gerontologists and other social scientists interested in health.

Our instrument seems promising in that it a) is based upon a conceptual scheme of illness adaptive tasks, b) proved to be a reliable and valid measure and, c) includes a component which allows us to determine strategies of coping in illness situations. We believe the IAS can further aid coping-adaptation work by aiding measurement of both coping and adaptation and clarifying relationships between coping process and an adaptational state. The two, while distinct, are closely associated and proved to be so in this work. As reported,

persons who achieve successful or unsuccessful adaptational outcomes tend to employ different coping strategies.

Having prepared an instrument to evaluate outcomes from a particular type of stressor likely to affect the elderly we are mindful of methodological pitfalls accompanying instrument formulation. However, we believe our approach presents a useful direction toward building better understanding of illness stress situations and believe our scale includes items which are appropriate for gerontological research.

Table 1 Rank of Illness Adaptive Tasks According to Difficulty Managing the Task

Items	Mean Difficulty Score*
1. Accepting being ill	2.04
2. Uncertainty about the future	2.00
3. Keeping an emotional balance	1.99
4. Family problems caused by illness	1.97
5. Family tasks and care when ill	1.82
6. Pain and/or physical limitations	1.80
7. Getting out, going places, traveling	1.80
8. Work or financial	1.78
9. Problems with self image	1.76
10. Keeping social contacts with friends, family	1.60
11. Special treatments	1.57
12. Communication with medical, professional staff	1.47

*Range of scores 1-4
1 = very successful in managing the task
2 = somewhat successful
3 = a little successful
4 = not at all successful

Table 2 Illness Coping Strategies

Adaptational Task	INSTRUMENTAL A Take[1] Action	INSTRUMENTAL B Seek[2] Assistance	COGNITIVE Escape[3]	AFFECTIVE Emotion[4]
Accepting illness	35%	34%	15%	14%
Family problems	37	27	19	10
Family tasks	41	31	16	3
Pain	23	44	15	4
Treatment	26	44	10	4
Medical Communication	36	32	10	6
Social Interaction	44	16	15	8
Emotional	39	23	18	13
Uncertainty	32	20	23	15
Self image	38	20	17	12
Economic, Work	44	25	9	10
Get out, travel	42	20	13	10

1 - Take action by self
2 - Seek assistance of others
3 - Hope situation will take care of itself
4 - Felt angry, upset, overwhelmed

Table 3 Predominant Coping Strategy for Illness

Adaptive Tasks According to Level of Maladaptation*

Adaptive Task	Maladaptation 1. Low (good adapters)	2. Medium	3. High (poor adapters)
1. Accepting Illness*			
Instrumental A (action)	47%	39%	x
Instrumental B (assistance)	x	x	27%
2. Family Problems*			
Instrumental A	60%	39%	x
Escape	x	x	30%
3. Family Tasks*			
Instrumental A	59%	42%	38%
4. Pain*			
Instrumental B (assistance)	59%	54%	43%
5. Treatment*			
Instrumental B	59%	51%	49%
6. Medical Communication*			
Instrumental A	60%	49%	x
Instrumental B	x		41%
7. Social Interaction*			
Instrumental A	69%	69%	x
Escape	x	x	33%
8. Environmental Balance*			
Instrumental A	63%	41%	x
Escape	x	x	30%
9. Uncertainty*			
Instrumental A	49%	39%	x
Affective	x	x	32%
10. Self Image*			
Instrumental A	56%	50%	29%
11. Economic, Work*			
Instrumental A	64%	51%	40%
12. Get out, Travel*			
Instrumental A	68%	59%	27%
Affective	x	x	27%

*Significant to $p < .05$
x = Nor-modal for this group

Appendix A

Young-Kahana Illness Adaptation Scale

12. Illness can pose many problems for families. For each problem area I will mention, think about the health problem you are facing and please tell me:
    1) If it gave you difficulty
    2) How successful you have been in handling it
    3) How you dealt with it

TO INTERVIEWERS: CHECK ALL 3 CATEGORIES. ASK SPOUSES TO RESPOND, I.E., INDICATE THEIR OWN DIFFICULTIES, SUCCESSES, STRATEGIES.

	1) ANY DIFFICULTY?		2) HOW SUCCESSFUL WERE YOU?				3) HOW DID YOU TRY TO SOLVE IT?			
	YES	NO	VERY	SOMEWHAT	A LITTLE	NOT AT ALL	I took action to solve it myself	I got assistance	I hoped it would take care of itself	I felt angry, upset, or overwhelmed
1. Accepting the illness										
2. Accomplishing family tasks and responsibilities										
3. Dealing with family problems caused by illness										
4. Pain and/or physical limitations										
5. Special treatments or procedures										
6. Communication with medical or professional staff										
7. Keeping social contacts with family and friends										
8. Keeping an emotional balance										
9. Uncertainty about the future										
10. Problems with self image										
11. Work or financial problems										
12. Getting out, going places, or travelling										

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